

Measuring the Spoken Language Development of Deaf Children using the SLC



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Background of the Spoken Language Checklist

- Approximately 3 out of 1,000 babies each year will be identified as D/HH (NCHAM, 2020).
- Studies show that 74% of families do not regularly sign in the home. Approximately 47% of families with two hearing parents do not sign with their DHH child and an additional 46% will use sign in addition to speech (Mitchell & Karchmer, 2004).
- More than half of D/HH children enrolled in public K-12 schools in the United States receive instruction using solely spoken language (GRI, 2011).
- A large percent of D/HH children enter Kindergarten and are identified as having no language or a limited number of concrete words (Wolsey et al., 2018).
- Many evaluations do not evaluate at the sentence level until around five years of age. By this point, children are past the critical period for language development.
- The SLC provides families of Deaf and hard of hearing (DHH) children with a parent-friendly language acquisition checklist with norms to follow their child's spoken language acquisition.
- The intention of the SLC is to allow families and professionals to easily and quickly identify any delays in D/HH children's spoken language acquisition.

The Spoken Language and Communication Skills Checklist

Name of participant: _____
 Date of birth: _____ Chronological age: ____ years ____ months
 Evaluator: _____ Date of assessment: _____

Birth to 12 Months	25%	50%	75%
1. Vocalizes to get attention	0:4	0:7	0:9
2. Recognizes parents	0:5	0:7	0:8
3. Shows a preference for primary caregiver's voice(s)	0:5	0:7	0:8
4. Communicates immediate needs by varying the manner of whining or crying	0:5	0:7	0:8
5. Searches for the speaker	0:5	0:7	0:9
6. Demonstrates excitement at sight of person/object	0:5	0:7	0:9
7. Begins to develop a social smile	0:5	0:7	0:9
8. Cooing with vowels	0:6	0:7	0:9
9. Responds to soothing sounds from caregiver(s)	0:6	0:7	0:9
10. Opens mouth in imitation	0:6	0:8	0:10
11. Begins to respond to parentese	0:6	0:8	0:9
12. Distinguishes emotions by tone of voice	0:6	0:8	0:10
13. Imitates playful sounds and/or facial expressions	0:6	0:8	0:10
14. Attends to music/singing	0:6	0:8	0:10
15. Vocalizes in response to speech	0:7	0:8	0:10
16. Babbles to self, others, objects ('pa', 'ba', 'ma')	0:7	0:8	0:9
17. Takes turn by vocalizing	0:7	0:8	0:10
18. Begins more complex babbling by vocalizing consonant/vowel/consonant (da-de, ba-be, ma-ma)	0:7	0:9	0:10
19. Demonstrates basic turn-taking (cooing noises and vocal play)	0:8	0:8	0:10

Using the Spoken Language Checklist with DHH Children

- 79 parents with DHH children who only use spoken language were asked to fill out the SLC for their child.
- Parents were asked to do the entire checklist regardless of child's age.
- This study had five age groups: 0-1 years old (n=8), 1-2 years old (n=18), 2-3 years old (n=20), 3-4 years old (n=17) and 4-5 years old (n=10).
- Children in this study had varying hearing levels, from mild (n=14), moderate to moderate severe (n=26), severe to profound (n=24), asymmetrical (n=7), and auditory neuropathy (n=1). All but seven children in the study wear assistive hearing devices.
- **Research Question:**
 - Given that children using spoken language should master typical linguistic milestones at a similar rate, does the SLC show that deaf children reach linguistic milestones at a similar rate as their hearing peers?

Development of the Spoken Language Checklist

- Found that many language checklists in use with DHH children are criterion referenced and not norm referenced.
- Those with norms often required the evaluator to be trained, leaving parents with little choices.
- The items on the SLC were developed using current criterion referenced measures for general language acquisition.
- The development process required three years and three rounds of peer revisions from audiologists, Deaf Education teachers, SLPs, and parents.
- User-friendly language.
- Norms were developed with 189 hearing children under the age of five.
- Basal and ceiling ages were determined for each criterion.
- For use with children from birth to 5 years of age.

Discussion

- Despite advances in hearing technology and changes in how we approach the language development of DHH children, it still appears that there continue to be significant delays in many DHH children's spoken language development.
- The participants in this study had access to all the characteristics that are predicted to lead to best outcomes: educated parents, early implantation followed by speech therapy and early intervention. However, only four showed to have a true basal age. Something is missing in the current model of how we approach language interventions.
- Often, participants who are said to have success acquiring spoken language tend to do so in a carefully controlled environment with explicit intentions for each verbal interaction (Harmon, 2014).
- The use of the SLC provides opportunities to evaluate the child's language development in a more natural environment.

Results

- The use of the SLC with the participants in this study showed that 66% of participants' language development was delayed by three or more months.
- Of those whose language was delayed (n=49), the majority (n=32) had a basal age of birth.
- Those who were identified as having appropriate language development seemed to be in the younger ages, below 3 years of age.
- The remaining 25 participants appeared to show age-appropriate basal age; however they were identified as having spotty mastery due to several items not being mastered at a younger age.
- Only four of the participants had a true age-appropriate basal age.
- The use of assistive hearing devices, as well as the number of hours spent per day wearing such devices, was correlated to spoken language development ($r=.338$).
- The amount of time spent with service providers (audiologists, early interventionists, and speech therapists) did not have a significant impact on spoken language development.

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References

